

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A method for allocating resources, comprising:
providing a resource allocation system comprising (i) at least one queue of work items, each of the work items having an associated service time, and (ii) at least one resource to service the work items in the at least one queue;
placing, by a computer, a time delay, corresponding to a non-business time period, in at least one position of said at least one queue, whereby the non-business-time period is ignored in determining at least one of a service time and a time remaining in the at least one queue for work items positioned at queue positions farther from a head of the at least one queue than the at least one position of the time delay; and
based on the at least one of a service time and remaining time, allocating, by a computer, resources associated with said at least one queue to service work items according to predetermined algorithms.
2. (Previously Presented) The method of Claim 1, wherein said placing step comprises:
accessing a calendar associated with said at least one queue, said calendar including entries corresponding to business time and non-business time;
determining when a non-business time period begins; and
placing a duration of said non-business time period in a selected position in said at least one queue to indicate when said non-business time begins.
3. (Previously Presented) The method of claim 2, wherein said selected position is at the head of said at least one queue and wherein said at least one queue is a delta queue, wherein a pointer indicates a next time out in the delta queue, wherein, in the delta queue, a service time associated with a selected enqueued work item is expressed as a delta value, a second delta value for a second work item at a second position of the delta queue being determined as a time difference relative to a first delta value for a first work item at a first position of the delta queue, and wherein the first position is nearer a head of the delta queue than the second position.
4. (Previously Presented) The method of claim 2, wherein said selected position is at a tail of said at least one queue and wherein said at least one queue is a delta queue, wherein, in the

delta queue, a service time associated with a selected enqueued work item is expressed as a delta value, a second delta value for a second work item at a second position of the delta queue being determined as a time difference relative to a first delta value for a first work item at a first position of the delta queue, and wherein the first position is nearer a head of the delta queue than the second position.

5. (Canceled)

6. (Previously Presented) The method of Claim 1, wherein said at least one queue includes a plurality of queues of work items, each of said plurality of queues having an associated calendar indicating business time and non-business time periods.

7. (Previously Presented) The method of Claim 6, wherein said predetermined algorithms perform resource allocation independently of the calendar associated with the queues.

8. (Original) The method of Claim 6, further comprising:

displaying, at a user interface, a resource status associated with a first queue of said plurality of queues, the resource status being displayed in relation to a real time clock included in the resource allocation system.

9. (Previously Presented) The method of Claim 8, further comprising:

determining service times for work items in said first queue;

selecting a calendar associated with said first queue;

converting each of the service times into an equivalent real time index; and

thereafter determining, for each of the real time indices, a corresponding business time interval.

10. (Currently Amended) The method of Claim 9, wherein said an indexing step comprises:

selecting a minimum time interval;

determining, for the selected calendar, the calendar start time;

subtracting a selected real time from the calendar start time to provide a relative real time;

taking the modulus of the relative real time by the minimum time interval to output a corresponding real time index; and

converting the real time index into a corresponding business time index.

11. (Canceled)

12. (Currently Amended) A resource allocation system, comprising:

a plurality of human agents;

— a plurality of queues for holding work items to be serviced by the plurality of human agents;

a processor controlled scheduler operable, by a computer, to receive the work items, determine at least one of a service time and time remaining in queue for said work items, place said work items into a selected queue of the plurality of queues, and allocate human agents to service work items in the plurality of queues according to predetermined agent allocation algorithms;

a timer operable to track the at least one of a service time and time remaining in queue in said plurality of queues;

a plurality of electronic calendars corresponding to said plurality of queues, wherein each queue has an associated calendar, and wherein each calendar has entries corresponding to business time and non-business time,

wherein said scheduler is operable, by the computer, to monitor/monitors each of said calendars and, upon the start of a non-business time for a selected calendar, place a time delay corresponding to the length of said non-business time into the queue associated with the selected calendar, whereby the non-business-time period is ignored in determining the at least one of a service time and time remaining in queue for at least some of the work items in the queue associated with the selected calendar.

13. (Original) The resource allocation system of Claim 12, further comprising:

a user interface operable to display information related to current status of said plurality of queues; and

a conversion system operable to convert real time to business time for display on said user interface.

14. (Previously Presented) The resource allocation system of Claim 13, wherein said conversion system is operable to:

determine the service times for work items in said plurality of queues;

select a calendar associated with each of said plurality of queues;

convert each of the service times into an equivalent real time index; and

thereafter determine, for the real time indices, a corresponding business time interval.

15. (Previously Presented) The resource allocation system of Claim 14, wherein said conversion system creates said index according to the following steps:

- select a minimum time interval;
- determine, for the selected calendar, the calendar start time;
- subtract a selected real time from the calendar start time to provide a relative real time;
- taking the modulus of the relative real time by the minimum time interval to output real time index; and
- converting the real time index into a corresponding business time index.

16. (Canceled)

17. (Previously Presented) The resource allocation system of Claim 12, wherein said scheduler is operable to:

- access a business time calendar which includes information corresponding to business time and non-business time;
- determine when a non-business time period begins; and
- place a duration of said non-business time period into said queue to indicate when said non-business time begins.

18. (Previously Presented) The resource allocation system of Claim 12, wherein said queues are delta queues, wherein a pointer indicates a next time out in each of the delta queues, wherein, in a selected delta queue, a service time associated with a selected enqueued work item is expressed as a delta value, a second delta value for a second work item at a second position of the selected delta queue being determined as a time difference relative to a first delta value for a first work item at a first position of the selected delta queue, and wherein the first position is nearer a head of the selected delta queue than the second position.

19. (Original) The resource allocation system of Claim 12, wherein said scheduler is operable to:

- determine which of said plurality of queues into which said work item should be placed, each of said queues having an associated calendar including business time and non-business time periods; and
- place said work item at the tail of one of said plurality of queues based on said determination.

20. (Previously Presented) The resource allocation system of Claim 12, wherein said predetermined algorithms perform agent allocation independently of the calendar associated with the queues.

21-30. (Canceled)

31. (Currently Amended) A computer readable medium comprising ~~computer executable instructions to instructions, that when executed by a computer,~~ perform the steps of Claim 1, ~~wherein the computer-readable medium is in communication with and is being accessed and executed by a computer.~~

32. (Previously Presented) The method of Claim 1, wherein the time delay stops a clock associated with the at least one queue for the duration of the time delay.

33-39. (Canceled)

40. (Previously Presented) The method of Claim 1, further comprising:
selecting a real time, the real time being related to a state of a work item;
determining, for the selected real time and by a computer, a real time index into a real time-to-business time conversion table; and
determining, from the real time-to-business time conversion table and by a computer, a business time interval.

41. (Previously Presented) The resource allocation of claim 12, wherein the scheduler:
selects a real time, the real time being related to a state of a work item;
determines, for the selected real time and by a computer, a real time index into a real time-to-business time conversion table; and
determines, from the real time-to-business time conversion table and by a computer, a business time interval.

42. (Withdrawn) In a contact center, a method comprising:
providing a plurality of resources to service incoming work items and a plurality of queues for the work items;
determining, by a computer, a first index to a conversion table;
mapping, in the conversion table and by a computer, the first index to provide a second index;

converting, by a computer, the second index into a corresponding second time, wherein the first time is in at least one of business time and real time and the second time is in the other one of business time and real time; and

based on the second time, selecting, by a computer, a resource to service a selected work item.

43. (Withdrawn) The method of claim 42, wherein the first index is a real time index and the second index is a business time index and wherein each of the first and second indexes are determined by a modulus operation relative to a minimum selected time interval.

44. (Withdrawn) The method of claim 42, wherein the first index is a business time index and the second index is a real time index and wherein each of the first and second indexes are determined by a modulus operation.

45. (Withdrawn) The method of claim 42, wherein the queues are delta queues, wherein, in each delta queue, a service time associated with each work item is expressed as a delta value, a first delta value for a first queue position at a head of the at least one queue being determined relative to a current time and a second delta value for a second queue position immediately behind the first queue position in the at least one queue being determined relative to the first queue position, and wherein a time delay is placed at the first queue position.

46. (Withdrawn) The method of claim 43, wherein the real time index is determined as follows:

selecting a calendar having a calendar start time;

subtracting the calendar start time from a selected real time to provide a relative real time;

dividing the relative time by a unit of calendar time to provide the real time index.

47. (Withdrawn) The method of claim 42, wherein the first index corresponds to one of real and business time and the second index corresponds to the other of real and business time, wherein each queue has a corresponding business time calendar for determining business time, each business time calendar defining business time periods and non-business time periods, wherein a plurality of business time calendars are concurrently in use by the plurality of queues, wherein a resource distribution algorithm, using at least one of business and real time, distributes enqueued work items to available resources, and further comprising:

determining, by a computer, the service times for work items in a selected queue;

selecting, by a computer, a business time calendar associated with the selected queue;
converting each of the service times into an equivalent real time by applying, to each of
the service times, the steps of claim 42.

48. (Withdrawn) The method of Claim 42, further comprising:

placing a time delay, corresponding to a non-business time period, in at least one position
of at least one queue, whereby the non-business-time period is ignored in determining at least
one of a service time and a time remaining in the at least one queue for work items positioned at
queue positions farther from a head of the at least one queue than the at least one position of the
time delay; and

based on the at least one of a service time and remaining time, allocating resources
associated with said at least one queue to service work items according to predetermined
algorithms.

49. (Withdrawn) The method of claim 45, wherein work items in a first delta queue
have a service time expressed in real time and work items in a second delta queue have a service
time expressed in business time.

50. (Withdrawn) A computer readable medium comprising computer executable
instructions to perform the steps of Claim 42.